



Ministry of Housing  
Ministère du Logement

Buildings Branch  
2-777 Bay Street  
Toronto, Ontario  
M5G 2E5

Government  
Publications

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ENTION

ATTENTION

ATTENTION

ENCLOSED AMENDED B.M.E.C. AUTHORIZATION - #83-2-61

Dear Sir/Madam:

Further to a letter sent on 7 November 1988 from D. Hodgson, Director, Ontario Buildings Branch, regarding the inappropriate use and failure of Sparfil Wall System. I would like to bring the following information to your attention.

The Building Materials Evaluation Commission has now amended the authorization to Sparfil for a new mode of construction, application and design.

The enclosed "Amended Authorization #83-2-61 dated 10 May 1989 on the subject of Sparfil Wall System II" shows the amended changes noted by the usual vertical line in the right hand side margin.

Particular attention should be paid to each and every paragraph of the amended authorization, as well, in paragraph 9.(b) and (c), Sparfil will provide their new "Design Manual for Sparfil Wall System II", which also contains the new "Sparfil Tech Sheets, 1, 2, 3, 4 and 7 dated 10 May 1989". Also in paragraph 13.(a) and (b) the new surface bonding mortar and fibre glass mesh are addressed.

As in the past an Architect or Professional Engineer is still responsible for the design, details and general review during construction of the Sparfil Wall System II.

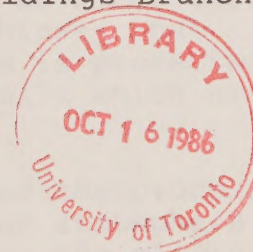
Should you have any questions, please do not hesitate to contact an advisor at the Ontario Buildings Branch 585-6666.


Sincerely,

*Ken. Reel*

K.S. Reel  
Secretary  
Building Materials  
Evaluation Commission

Enclosure





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*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

## CLASSIFICATION OF BUILDINGS

B.C.C. #89-12-252  
12 July 1989

### General Description of the Project

The project is a proposed five-storey oat mill that abuts two existing buildings. The proposed building faces no streets and is bound by railway tracks on both sides of the building. Railway cars stationed on these tracks provide 2 feet of clearance from each building face.

The dispute involves whether the building should be classified as a low hazard industrial occupancy or a high hazard industrial occupancy.

### Reason for Application

Table 3.1.2.A. of Ontario Building Code O. Reg. 419/86 provides the classification of buildings according to their major occupancy.

Sentence 3.2.2.41.(1) and Table 3.2.2.P. provide the building size and construction requirements for Group F, Division 1, up to 4 storeys, sprinklered buildings.

Clause 3.2.2.1.(2) states that structures which cannot be identified with the description of buildings in Articles 3.2.2.9. to 3.2.2.53. shall be protected against fire spread and collapse in conformance with good fire protection engineering practice, such as described in the NFPA Fire Protection Handbook, Fifteenth Edition.

### Applicant's Position

The building is of noncombustible construction and sprinklered. The floor assemblies cannot be constructed as fire separations because of pipes and machinery that penetrate the floors. The processing area is protected from the five-storey storage bins by the bin walls which are designed to contain explosions.

The inside of the building is very clean as the process is totally enclosed and properly vented to the atmosphere outside the building. It is contended that the milling process meets the OBC definition for a low hazard industrial occupancy.

### Building Official's Position

Table 3.1.2.A. identifies this type of building as a high hazard industrial occupancy (Group F, Division 1). Sentence 3.2.2.41.(1) and Table 3.2.2.P. limit Group F, Division 1 buildings to four storeys.

### Commission Ruling

In favour of the Applicant/Building Official. It is the decision of the Building Code Commission that Application #89-12-252 in the matter regarding Ontario Building Code O. Reg. 419/86, that this building shall be classified as a high hazard industrial occupancy Group F, Division 1. However, as this is a structure that cannot be identified under the OBC due to the number of storeys, for the purpose of protection from the effects of fire and collapse, the provisions referenced in the NPFA Fire Protection Handbook, Fifteenth Edition, including reference documents shall apply. Additionally, the most rigid requirements for an F1 occupancy under the Ontario Building Code shall apply.

The Architect and Professional Engineer responsible for the design and construction shall certify, in writing, the conformance with this decision to the Chief Building Official with a copy to the Building Code Commission.

### Recommendations

Special consideration should be given to:

1. Fire department access.
2. Ambulance emergency access.
3. Emergency removal of railway cars from adjacent sidings.
4. Fire rated assemblies of floors, walls and closures.
5. Openings around floor penetrations.





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## STANDPIPE AND HOSE SYSTEM

B.C.C. #89-11-251  
12 July 1989

### General Description of the Project

The project is a proposed addition to an existing one-storey unsprinklered warehouse building which is used for bulk storage of beer in kegs, cases of cans and cases of bottles. The existing building is of concrete block and steel frame construction and is approximately 3,187 m<sup>2</sup> in building area. The proposed addition has a building area of 216.28 m<sup>2</sup> and comprises approximately 6.5% of the total building area. The area of dispute involves whether a standpipe and hose system is required for the addition.

### Reason for Application

Subclause 3.2.5.4.(1)(a)(ii) of Ontario Building Code O. Reg. 419/86 states that except as provided in Sentence 3.3.7.6.(7), a standpipe and hose system shall be installed in every building that is greater in building area than the area shown in Table 3.2.5.A. for the applicable building height shown in the Table where the building is not sprinklered and does not exceed 14 m in height measured between grade and the ceiling of the top storey.

### Applicant's Position

The existing building has been occupied and in use since about 1955. There are adequate fire extinguishers on the premises, there is a fire safety committee and employees are trained in fire safety.

The fire risk to this building would not be increased by the addition of such a small expansion to a previously non-conforming use.

### Building Official's Position

The addition represents a 6.5% increase in building area, thus requiring the installation of a standpipe and hose system in accordance with Article 3.2.5.4. for a one-storey, F2 occupancy greater than 2000 m<sup>2</sup> in building area.

Commission Ruling

In favour of the Applicant. It is the decision of the Building Code Commission that Application #89-11-251 in the matter regarding O. Reg. 419/86 demonstrates sufficiency of compliance with the Ontario Building Code.

Reasons

1. The building is of noncombustible construction.
2. A fire safety committee is in place and employees are trained in fire safety.
3. Adequate fire extinguishers have been installed.
4. The building is used for refrigerated storage of beer.





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## EXIT FACILITIES

B.C.C. #89-10-250  
29 June 1989

### General Description of the Project

The project involves the construction of a new underground streetcar terminal at a rapid transit station. The dispute concerns whether the structure is required to be served by 1 or 2 exits.

### Reason for Application

Sentence 3.4.2.1.(1) of Ontario Building Code O. Reg. 419/86 states that except as provided in Sentences (2) to (4), and (7), every floor area regulated in Sentence 3.4.1.1.(1) shall be served by not fewer than 2 exits.

### Applicant's Position

The present OBC does not have provisions suitable for regulating underground transit stations. The underground structures were designed to American Public Transit Association guidelines which permit single exit stations. The municipality waived the requirement for a building permit when construction began but later demanded a permit. Shortly afterwards, the municipality served a notice requiring two exits.

Because of the inclusion of a smoke exhaust system which exceeds OBC requirements and because the transit station is well ventilated at both ends of the tunnel, it is maintained that there is sufficient provision for passenger safety in the present design.

### Building Official's Position

Sentence 3.4.2.1.(1) of the OBC requires 2 exits. The Guidelines for Design of Rapid Transit Facilities (by the Rail Transit Committee, American Public Transit Association) of Article 2-2.1.4. require two fully separated exits.

The intent of the applicability of the OBC is made clear by the interim report of the Task Force on Subway Stations in which Article 3.12.4.3. requires 2 exits.

Article 2-5.3.6 of NFPA 130 requires a second means of egress.

Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #89-10-250 in the matter regarding O. Reg. 419/86 does not comply with the requirements of the Ontario Building Code concerning exits.

Reasons

1. The Respondent requested an adjournment. The Commission decided it was necessary to hear the evidence to determine whether an adjournment was warranted.

Due to the life safety subject matter, it was evident that a decision in this matter must not be delayed.

2. The Building Code Commission's recommendations of over 10 years ago - to these same parties have not been implemented.

Today's Building Code Commission heartily reendorses these recommendations.





Ontario

Ministry  
of  
Housing

Building Code Commission

Building Materials Evaluation Commission

# Rulings

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## SPATIAL SEPARATION

B.C.C. #89-9-249  
29 June 1989

### General Description of the Project

The project is a municipal proposal to build a multi-level, open-air storage garage. It is proposed to transfer a strip of property on the east side of the structure that will result in the reduction of the limiting distance. The Applicant wishes to maintain the original limiting distance in order to permit the maximum allowable percentage of unprotected openings as the adjacent property owner would use the transferred strip of property for access purposes only.

The dispute involves whether the area of unprotected openings in the east elevation can be calculated from the limiting distance to the original property line or from the limiting distance to the transferred property line.

### Reason for Application

Sentence 3.2.3.1.(6) of Ontario Building Code O. Reg. 419/86 states methods other than that described in Sentences (1) to (5) for determining the maximum allowable area of unprotected openings in an exposing building face may be used provided the standard of safety is not reduced.

### Applicant's Position

Since the proposed transfer of property will result in the unprotected openings of the east elevation being in non-compliance with the spatial separation requirements, it is proposed to register a covenant on title of both properties ensuring that the spatial separation between the existing and proposed buildings remain intact.

### Building Official's Position

Although the adjacent property owner has agreed to encumber this strip of land such that no structures or portions of a structure would be built thereon, and which covenant would be registered on title of both parties thereby assuring that the limiting distance remains intact, Sentence 3.2.3.1.(6) of the Ontario Building Code does not recognize this type of an arrangement in the determining of limiting distance.

Commission Ruling

In favour of the Applicant. It is the decision of the Building Code Commission that Application #89-9-249 in the matter regarding Ontario Building Code O. Reg. 419/86 has a sufficiency of compliance on condition that the owners of both properties, together with the Chief Building Official, enter into a covenant that shall run with the title and be binding on all parties, heirs and successors or assigns of each property, stating that the parties will comply with the Building Code in force at the time of any future construction or change of occupancy affecting the spatial separation requirements of either property. Additionally, the land indicated on exhibit B as Part 1 increases the spatial separation of the existing building.

Reasons

1. The Commission sees no life safety hazard at this time and the above covenant shall provide for life safety protection in the future should conditions change.
2. The Applicant shall provide a certified copy of the covenant to the Secretary of the Building Code Commission.
3. The Chief Building Official agrees that the existing spatial separation for the existing building and the new building is adequate.





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## SPATIAL SEPARATION

B.C.C. #89-8-248

14 June 1989

### General Description of the Project

The project is a proposed addition to an existing three-storey building with an approximate building area of 250 m<sup>2</sup>. The 1st floor contains a Group D office occupancy while the 2nd and 3rd floors contain a Group C residential occupancy. The 2nd and 3rd floors currently take up approximately one third of the building length. It is proposed to add an extension to the existing 2nd floor and to install up to 10% unprotected openings on the north wall of this addition. The building is built to the north property line where there exists a deeded right-of-way 3.048 m wide which extends the full width of the property and beyond.

The dispute involves whether the limiting distance of the north wall should be calculated from the property line or from the centerline of the right-of-way.

### Reason for Application

Article 9.10.14.1. of Ontario Building Code O. Reg. 419/86 states the requirements for unprotected openings in an exposing building face.

Subsection 1.3.2. states that the definition of "limiting distance" means the distance from an exposing building face to a property line, the centerline of a street, lane or public thoroughfare, or to an imaginary line between 2 buildings or fire compartments on the same property, measured at right angles to the exposing building face.

### Applicant's Position

The Building Code defines limiting distance as the distance from an exposing building face to the centerline of a street, lane or public thoroughfare. The definition does not account for a deeded right-of-way. It is intended to base the amount of unprotected openings on the centerline of the deeded right-of-way.

#### Building Official's Position

The limiting distance must be calculated to the property line as a right-of-way is not included in the Ontario Building Code definition for limiting distance.

#### Commission Ruling

In favour of the Applicant. It is the decision of the Building Code Commission that Application #89-8-248 in the matter regarding Ontario Building Code O. Reg. 419/86 has sufficiency of compliance because the "deemed right-of-way" meets the intent of "limiting distance" with respect to a lane.

#### Reasons

The intent of the Code is to use the centerline of land common to adjoining properties to measure limiting distance.





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SPATIAL SEPARATION &  
INTERCONNECTED FLOOR SPACES

B.C.C. #89-7-247

14 June 1989

General Description of the Project

The project involves two proposed office towers that are linked together by a twelve-storey atrium having a fully-glazed exposing building face at the north and south elevations. The entire complex faces four streets.

The subject of the dispute is the size of the fire compartments that may be used to determine the size of the area of exposing building face in order to obtain the area of unprotected openings permitted by the Code. The dispute also concerns whether pressurized elevator shafts can be substituted for pressurized vestibules in the interconnected floor spaces.

Reason for Application

Sentence 3.2.3.2.(1) of Ontario Building Code O. Reg. 419/86 states that the area of an exposing building face shall be calculated as the total area of exterior wall facing in 1 direction on any side of a building measured from the finished ground level to the uppermost ceiling, except that where a building is divided by fire separations into fire compartments, the area of exposing building face may be calculated for each fire compartment provided such fire separations

- (a) in Group A, B, C, D or Group F, Division 3 occupancy have a fire-resistance rating at least equal to that required for the floor assembly, but shall not be less than 3/4 h and need not be more than 1 h, and
- (b) in Group E or Group F, Division 1 or 2 occupancy have a fire-resistance rating of at least 2 h.

Sentence 3.2.8.4.(1) states that except as provided in Sentence (2), where an elevator shaft opens into an interconnected floor space and into storeys that are above such space and that have floor levels more than 18 m above grade, either the elevator doors opening into the interconnected floor space or the elevator doors opening into the storeys above the interconnected floor space shall be protected by vestibules that

- (a) are designed to restrict the passage of contaminated air to the limit described in Sentence 3.2.8.3.(1), and
- (b) conform to the requirements of Sentence 3.2.8.3.(3).

### Applicant's Position

The Code does not address the situation where an atrium and interconnected floor spaces are placed against an exterior wall. The special requirements for fire and smoke protection at interconnected floor spaces provide at least the same level of safety that would be provided where fire separations occur at the atrium wall.

The Code requires that elevator shafts in interconnected floor spaces be protected from contaminated air for a 2 h period and be limited to 1% by volume. The Code requires this be achieved by vestibules. It is proposed to achieve at least the same level of safety by pressurizing the elevator shafts during a fire condition and thus prevent the entry of uncontaminated air.

### Building Official's Position

The proposed atrium creates a fire compartment which consists of the area from the third storey through to the twelfth storey inclusive as all the storeys are open to the atrium from both towers. This large fire compartment, based on the limiting distance provided, exceeds that permitted in the Code. There is no provision in the Building Code to allow a concession for atriums and a sufficiency of compliance is not within the jurisdiction of the Chief Building Official to permit.

With respect to elevator shafts in the interconnected floor spaces, the Code requires pressurized vestibules and not pressurized shafts.

### Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #89-7-247 in the matter regarding Ontario Building Code O. Reg. 419/86, that:

1. The proposed atrium creates a fire compartment that based on limiting distance, exceeds the Code.
2. Elevator vestibules shall be provided where required by the Code.

### Reasons

1. The atrium is one large fire compartment which has exposing building faces.
2. The Code requires the use of vestibules for elevator shafts.





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## SPATIAL SEPARATION

B.C.C. #89-6-246

17 May 1989

### General Description of the Project

The project is a third storey addition to a two-storey, single family dwelling. The dispute involves the installation of windows on the south wall of the 3rd storey addition where the south wall of the house is within 1.2 m of the property line.

### Reason for Application

Table 9.10.14.A. of Ontario Building Code O. Reg. 419/86 provides for the maximum percentage of unprotected openings in exterior walls.

### Applicant's Position

Two 300 mm by 900 mm surplus windows from construction on the addition were installed on the south wall of the third floor. The third floor windows are above the highest point of the adjacent house and do not pose a fire hazard.

### Building Official's Position

Two windows approximately 300 mm by 900 mm each in size were installed in the south wall contrary to the plans reviewed with the permit. The windows are approximately 0.6 m from the lot line and contrary to Table 9.10.14.A. which does not permit any unprotected openings within 1.2 m of the property line.

### Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #89-6-246 regarding O. Reg. 419/86 does not meet the requirements of the Ontario Building Code.

### Reasons

The installation of these windows exceed the maximum permitted percentage of unprotected openings in this wall.







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*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

## EXIT FACILITIES

B.C.C. #89-5-245  
17 May 1989

### General Description of the Project

The project involves two proposed high-rise condominium towers linked together at the base by a two-storey central core consisting of a retail level on the 1st floor and an office level on the 2nd floor. The dispute concerns exits from the above and below grade floor areas that exit into open but covered public thoroughfares.

### Reason for Application

Article 3.4.1.1. of Ontario Building Code O. Reg. 419/86 requires that exit facilities be provided from every floor area which is intended for occupancy.

### Applicant's Position

The open public thoroughfares meet the Code requirements because the exits in question regarding exiting to open public thoroughfares conform to the definition of exit. Proposed solutions include:

1. The exits terminate in the open public thoroughfares where the thoroughfares:
  - Contain no combustible materials
  - Are 33'-0" wide at the exits
  - Are 21"-10" wide at the opening to the street at each end
  - Allow occupants to exit one of two ways out of each layby
  - Soffit is 9"-5" and 9'-8" above grade at the east thoroughfare and 13'-8" and 16'-10" above grade at the west thoroughfare.
  - Adjacent retail level, second floor commercial level and basement parking levels are sprinklered with self-activating heat sensitive heads.
2. Same as Option 1 except, retail, commercial and parking levels are sprinklered with a "pre-activated" type sprinkler system with smoke detecting heads and an "A" and "B" integrated sprinkler head system.
3. Same as Option 1 except, the open public thoroughfares are sprinklered.
4. Same as Option 3 except, the demising retail glazing is provided with a 1 h fire-resistance rating with a quick-response sprinkler surface wash system.

#### Building Official's Position

The exits from the two residential towers do not lead directly to an open public thoroughfare or to an exterior open space, as required by the definition of exit. The proposed termination of exits at the ground floor level is not in conformity with the requirements of Article 3.4.4.1.

The exits lead to a "layby" space (essentially a short tunnel underneath the building open at both ends to the outside) which is intended to be used for loading and unloading passenger cars and moving trucks. This area is not considered to be an "open exterior space" in that this space is underneath the building, it is not protected from fire exposure from the building, and it is used by motor vehicles.

#### Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #89-5-245 in the matter regarding O. Reg. 419/86 that neither the proposed method of exiting nor the options for exiting are in conformance with the requirements of the Ontario Building Code.

#### Reasons

The Code requires that "Exits lead directly from a floor area to an open public thoroughfare or to an exterior open space".





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## HOSE STATIONS

B.C.C. #89-4-244

5 April 1989

### General Description of the Project

The project is a proposed fifteen-storey hotel. The dispute concerns the number and location of hose stations required to be provided on each typical floor.

### Reason for Application

Sentence 3.2.5.4.(6) of Ontario Building Code O. Reg. 419/86 states that hose stations shall be located

- (a) so that every portion of the building can be reached by a hose stream and is within 3 m of a hose nozzle when the hose is extended, and
- (b) not more than 5 m from exits serving floor areas, except for the ground floor

### Applicant's Position

The building is fully sprinklered. The typical floor plate area is only 8100 ft<sup>2</sup> so that should the second fire hose cabinet be installed, the two cabinets would only be 7.6 m apart. Local authorities have imposed the requirement for one additional fire hose cabinet per floor on advice from the Office of the Fire Marshal.

### Building Official's Position

Sentence 3.2.5.4.(6)(b) requires hose stations within 5 m of each exit serving a floor area.

### Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #89-4-244 in the matter regarding Ontario Building Code O. Reg. 419/86 does not comply.

### Reasons

The Code is specific in requiring hose cabinets within 5 m of all exits serving floor areas.







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# Rulings

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## CLASSIFICATION OF BUILDINGS AND FIRE SEPARATIONS

B.C.C. #89-3-243

12 April 1989

### General Description of the Project

The project involves the conversion of a basement in a single family dwelling into a day care centre. The dispute concerns the building classification of the lower level; the required fire-resistance rating of doors, walls and ceiling; as well as requirements for fire stop flaps.

### Reason for Application

Sentence 3.1.1.3.(5) of Ontario Building Code O. Reg. 419/86 states that where one major occupancy is located above another, the fire-resistance rating of the floor assembly between such major occupancies shall be determined on the basis of the requirements in Subsection 3.2.2. for the lower major occupancy. (See also Article 3.1.3.2.)

### Applicant's Position

The lower level of the house is used to operate a half-day nursery programme for 16 children. A sophisticated fire alarm system has been installed. The occupant load is low and a second fire exit has been provided even though it is not required by the fire department. The safety of the children is better served by two separate exits rather than implementing the additional requirements for an A2 occupancy.

### Building Official's Position

The requirements of Part 3 of the Ontario Building Code apply to the nursery in the lower level because the nursery is classified as an A2 occupancy. The building permit required a 1 hour fire separation for the basement ceiling assembly between the A2 occupancy of the nursery and the C occupancy of the ground floor. The permit also required a 1 hour fire separation around the stairs and furnace room in the basement. Fire stop flaps were also required on all openings that penetrated fire separations.

The basement ceiling was completed prior to permit issuance and only one layer of 5/8" gypsum board was installed.

Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #89-3-243 in the matter regarding O. Reg. 419/86 does not comply with the Ontario Building Code.

Reasons

1. One hour fire separation is required between an A2 occupancy and a C occupancy.
2. Doors in fire separations shall be rated.
3. Ducts that penetrate the fire separation shall be provided with fire stop flaps.





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## FIRE SEPARATION FOR EXITS

B.C.C. #89-2-242

12 April 1989

### General Description of the Project

The project involves the renovation of three buildings into artists' and photographers' studios as well as restaurants. One of the buildings is two storeys high with the entrance/exit to the 1st and 2nd floors recessed approximately 8 feet into the 1st floor of the building. The 1st floor entrance/exit doors have unrated fixed aluminum doors and operating aluminum doors. Because of a pier obstruction along the perimeter of the building, the 2nd floor entrance/exit doors are angled at 135° to avoid a direct path of travel into the pier when exiting the building. As a result, occupants must travel by the 1st floor exit doors to reach an open public thoroughfare.

The dispute concerns whether each egress stair in the two-storey suites are required to be fire separated from the 2nd floor, whether the pier impedes direct passage to an open public thoroughfare, and whether exposure protection is required for the adjacent fire compartment which occupants must cross to reach an open public thoroughfare.

### Reason for Application

Sentence 3.4.4.1.(1) of Ontario Building Code O. Reg. 419/86 states that except as provided in Sentences (2), (7), and (8) and in Sentence 3.3.7.6.(3), every exit shall be separated from each adjacent floor area by a fire separation having a fire-resistance rating conforming to Table 3.4.4.A. for the grade of fire separation required for the floor assembly above the floor area and, where there is no floor assembly above, at least equal to that required for the floor assembly below, but in no case shall the fire-resistance rating be less than 3/4 h.

Sentence 3.4.4.1.(4) states that where an unenclosed exterior exit stair or ramp may be exposed to fire from openings in the exterior walls of the building it serves, the openings in the exterior walls of the building shall be protected with wired glass in fixed steel frames or glass block conforming to Article 3.1.6.10. where the openings in the exterior walls of the building are within 3 m horizontally and

- (a) less than 10 m below the exit stair or ramp, or
- (b) less than 5 m above the "exit" stair or ramp.

Sentence 3.4.4.1.(5) states that except as provided in Sentence (8), where an exterior exit door in one fire compartment is within 3 m horizontally of openings in another fire compartment, and the exterior walls containing such openings intersect at an exterior angle of less than 135°, the openings shall be protected with wired glass in fixed steel frames or glass block conforming to Article 3.1.6.10.

#### Applicant's Position

Each egress stair in the two-storey suites need not be separated from the 2nd floor since the egress stairs are fire separated from the 1st floor and the floor-to-floor fire separations are maintained. Each egress stair forms part of the 2nd floor, and is used as an access to the exit which is the exterior door. As such, no fire separation between the egress stair is required. In addition, occupants of the 2nd floor are protected from a fire on the 1st floor by the 1 h fire separation between the egress stair and the 1st floor.

Exposure protection for occupants of the 2nd floor who must pass by openings in the 1st floor fire compartment to reach a street is not required as per Sentence 3.4.4.1.(5) because the angle of the opening is not less than 135°. Furthermore, the occupants may travel in two directions when leaving the exit door.

#### Building Official's Position

Occupants of the 2nd floor must walk by unprotected openings in the adjacent fire compartments. An existing pier obstructs the exit passageway in front of the exit door thus exposing occupants to any hazard on the ground floor. The exit facilities are similar to the requirements stated in Sentence 3.4.4.1.(4); hence, exposure protection is required. With respect to the recessed exit doors, a fire situation in this area would allow flame-spread from adjacent compartments into this enclosed area thus decreasing life safety levels; therefore, the fixed aluminum door must be rated as per Code requirements.

Commission Ruling

In favour of the Applicant and Building Official. It is the decision of the Building Code Commission that Application #89-2-242 in the matter regarding the Ontario Building Code O. Reg. 419/86 shall comply as follows:

1. The Commission reaffirms the previous Commission Ruling that the stairs be fire separated at all levels, which includes the installation of fire-rated doors at both the first and second floor levels.
2. The exit door and the exterior exit passageway are in conformity with the Ontario Building Code.

Reasons

1. The exit doors open onto an open public thoroughfare.
2. The column or pier does not impede direct passage to an open public thoroughfare.
3. The fire compartments are located in such a manner that exposure at the first floor level is not required where the present fixed aluminum doors are located.







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*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

## DEAD-END CORRIDORS

B.C.C. #89-1-241  
5 April 1989

### General Description of the Project

The project is a proposed complex consisting of a cluster of five identical two-storey office buildings. Each floor area is approximately 17,500 ft<sup>2</sup>. The buildings have four exit staircases leading to two exit doorways on the ground floor. The area of dispute involves the use of dead-end corridors as exits for tenants exiting from the second floor.

### Reason for Application

Sentence 3.3.1.3.(1) of Ontario Building Code O. Reg. 419/86 states that except as permitted in Sentences 3.3.4.3.(5) and (6), each suite in a floor area that contains more than 1 suite shall have an exterior exit doorway or a doorway into a public corridor or to an exterior passageway.

Sentence 3.3.1.3.(2) states that except as permitted in this Section and in Sentence 3.4.2.1.(2), at the point where a doorway in Sentence (1) opens to a public corridor or exterior passageway, it shall be possible to go in opposite directions to each of 2 separate exits.

Sentence 3.3.5.2.(1) states that a dead-end public corridor is permitted in a business and personal services occupancy where

- (a) the dead-end corridor
  - (i) serves an occupant load that does not exceed 30 persons,
  - (ii) does not exceed 9 m in the distance of travel from the most remote point of the dead-end portion to a point where it is possible to go in opposite directions to each of 2 separate exits, and
  - (iii) is provided with doors having self-closing devices, or
- (b) there is a second and separate egress doorway from each room or suite not leading into a dead-end corridor.

### Applicant's Position

The large number of staircases and exits were provided for safety purposes and to provide maximum flexibility in the leasing of office areas to clients with different space requirements. Although not required under the Ontario Building Code, the buildings are sprinklered throughout. The design incorporates a maximum of two entrances/exits at the head of the stairs and two at the base.

### Building Official's Position

The Code requires each suite in a floor area that contains more than one suite to have an exterior exit doorway or a doorway into a public corridor or to an exterior passageway. The Applicant proposes a corridor which becomes a dead-end corridor where it is not possible to go in opposite directions to each of two separate exits, therefore, he has to provide a second and separate egress doorway from each suite not leading into a dead-end corridor.

### Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #89-1-241 in the matter regarding Ontario Building Code O. Reg. 419/86 has sufficiency of compliance provided that each tenant has access to a minimum of two separate exit stairwells and each of the exit doors from the floor area is protected by a vestibule (having a fire-resistance rating) as shown on Exhibit 4.

### Reasons

1. The Code is explicit requiring two exits for each tenant.
2. Each exit door into the exit stairwell has additional protection from the vestibule.
3. The buildings are fully sprinklered although not required by the Code.





Ontario

Ministry  
of  
Housing

Building Code Commission

Building Materials Evaluation Commission

# Rulings

*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

## MEZZANINES AND OPENINGS THROUGH FLOOR ASSEMBLIES

B.C.C. #88-29-240

22 March 1989

### General Description of the Project

The project consists of a proposed addition to an existing one-storey manufacturing plant (Group F, Division 3) and subsidiary office building dedicated to the engineering and cold processing of steel tools and dies. The existing plant, subsidiary office building and proposed addition are of noncombustible construction and are unsprinklered.

The dispute involves whether the window openings in the north and south walls of the multi-level mezzanine in the proposed building addition require fire shutters.

### Reason for Application

Sentence 3.2.1.1.(5) of Ontario Building Code O. Reg. 419/86 states that except as provided in Sentence (7), where more than 1 level of mezzanine is provided in a room or storey, each level additional to the first shall be considered as a storey in calculating the building height.

Sentences 3.1.6.10.(1) and 3.1.6.11.(2) state the requirements for wired glass assemblies for openings in fire separations. Sentences 3.1.8.1.(4), (8), (9) and (10) provide the requirements for firewalls.

### Applicant's Position

The entire one-storey building is unfairly being penalized as a hypothetical two-storey building because the enclosed multiple mezzanine area in the proposed addition is not separated by a firewall. The enclosed mezzanine is being designed as a fire-safe building according to the Code and only occupies 2.8% of the room area in which it is located.

The present and proposed plant is 9.75 m high consisting of concrete block sill walls with insulated steel siding, structural steel framing with steel roof joists and steel deck construction with fibre glass insulation and built-up roofing.

The enclosed multiple mezzanine area in the proposed addition will be constructed as a fire-safe building consisting of prestressed precast hollow concrete floor and roof planks bearing on concrete block walls.

The existing plant area is 3,006 m<sup>2</sup> and the existing office area is 575 m<sup>2</sup>. The new plant area is 664 m<sup>2</sup> and the new mezzanine area is 105 m<sup>2</sup>. The total building area will be 4,350 m<sup>2</sup>.

#### Building Official's Position

Sentence 3.2.1.1.(5) defines the building as a two-storey building. The building cannot be reviewed as a one-storey building with a three-storey mezzanine.

Sentence 3.1.6.10.(1) permits the use of wired glass in fire separations required to have not more than a 1 hour fire-resistance rating. Windows in a 2 hour firewall must have a proper fire protected closure and wired glass in a 2 hour firewall is not a permitted closure.

#### Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #88-29-240 does not meet the requirements of the Ontario Building Code O. Reg. 419/86 inasmuch as the walls of the new construction require a fire rating equal to that of the adjacent floor assembly.

#### Reasons

In addition, the Commission recommends that consideration be given to the provision of a second exit from the upper floors of the new construction.



*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

MEZZANINES AND OPENINGS  
THROUGH FLOOR ASSEMBLIES

B.C.C. #88-28-239

22 March 1989

General Description of the Project

The project is a ten-story hotel under construction. The first and second storeys of the building are interconnected floor spaces. The dispute involves the air shaft (atrium) that extends from the 3rd floor to the 10th floor where the opening between the floors is deficient in size.

Reason for Application

Sentence 3.2.8.2.(2) of Ontario Building Code O. Reg. 419/86 states that the cylinder referred to in Sentence (1) shall have a cross-section that, where taken at a right angle to the longitudinal axis of such cylinder, is (a) a circle at least 9 m in diameter, or (b) an ellipse at least 7 m wide along the minor axis and at least 65 m<sup>2</sup> in area.

Applicant's Position

The present design meets or exceeds all parameters contained within Subsection 3.2.8. of the Ontario Building Code, with the exception of size. The space has a low combustible content, contains no occupancy in areas of special concern, is contained within a two hour fire-resistance envelope, and is bordered by the exterior building envelop by approximately 50 per cent of the perimeter.

Building Official's Position

The Applicant wishes to change the air shaft that extends from the 3rd floor to the 10th floor to an atrium by opening it up to the adjacent floor area. This atrium will not comply with the size requirements as stated in Sentence 3.2.8.2.(2).

The area adjacent to the proposed atrium contains no occupancy and has a low fire load content. However, this area does contain the building's elevators, one of which is the fire fighters' elevator.

The design does not meet the Code requirements which are clear and explicit.



Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #88-28-239 does not conform to the regulations of the Ontario Building Code O. Reg. 419/86 inasmuch as the size of the atrium air shaft is insufficient and the floors from the 3rd floor to the roof are unprotected openings.

Reasons

The Code contains specific requirements in these matters.



*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

## DEAD-END CORRIDORS

B.C.C. #88-27-238

8 February 1989

### General Description of the Project

The project is a proposed three-storey, 24-unit apartment building. The dispute involves a garbage chute intake opening and garbage room which have been provided at the end of a dead-end corridor on the second and third floors of the building.

### Reason for Application

Sentence 3.3.4.4.(2) of Ontario Building Code O. Reg. 419/86 states that dead-end corridors in Sentence (1) shall serve not more than 4 suites and shall contain no door openings other than for suites, arranged so that it is not necessary to pass more than two doors in the dead-end corridor in travelling to the nearest exit.

### Applicant's Position

The garbage room door will be locked and mastered with the suite door, therefore it will not lower the level of safety in the dead-end corridor.

### Building Official's Position

Sentence 3.3.4.4.(2) states that only suite doors are allowed in dead-end corridors in residential buildings. Sentence 3.5.3.2.(5) provides requirements for rooms containing intake openings for refuse chutes.

The above do not permit the "as designed" condition. It is considered that the Building Code recognizes the potential hazard of dead-end corridors and limits the hazard by permitting only limited suite doors in dead-end corridors in residential buildings.

### Commission Ruling

In favour of the Applicant. It is the decision of the Building Code Commission that Application #88-27-238 has sufficiency of compliance with the Ontario Building Code O. Reg. 419/86.

Reasons

1. The garbage chute room is separated by a 2 hour fire rated separation.
2. The garbage chute is sprinklered.
3. The door leading to the garbage chute room is at the very end of the dead-end corridor.
4. The door to the garbage chute room is opened by suite keys which are mastered to that door lock.
5. The garbage room door lock is self-latching and is openable from the interior.
6. The garbage room door is not provided with an exterior door handle, which might confuse a person in a smoke filled emergency situation.
7. The Applicant has agreed to transpose the broom closet and entrance door to the suite closest to the garbage chute so that occupants are not required to pass immediately in front of the garbage room door.





*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

## DEAD-END CORRIDORS

B.C.C. #88-26-237  
8 February 1989

### General Description of the Project

The project is a proposed eleven-storey apartment building. The dispute involves the pressurized elevator shaft and its two elevator doors opening into a dead-end corridor serving two suites.

### Reason for Application

Sentence 3.3.4.4.(2) of Ontario Building Code O. Reg. 419/86 states that dead-end corridors in Sentence (1) shall serve not more than 4 suites and shall contain no door openings other than for suites, arranged so that it is not necessary to pass more than two doors in the dead-end corridor in travelling to the nearest exit.

### Applicant's Position

The Buildings Branch is reviewing the National Building Code's proposed change to permit a dead-end corridor if it does not exceed 6 m in length, measured from the end of the corridor to a point where it is possible to go in opposite directions to each of 2 separate exits, regardless of the service spaces it supports. Based on NBC's proposed change, the floor plan would be acceptable.

### Building Official's Position

The Building Official does not have the authority to exercise discretion in this matter.

### Commission Ruling

In favour of the Building Official. It is the opinion of the Building Code Commission that Application #88-26-237 does not meet the requirements of the Ontario Building Code, O. Reg. 419/86, inasmuch as occupants exiting must pass doors other than suite doors.





*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

SPRINKLERS IN LIEU OF  
STRUCTURAL FIRE-RESISTANCE

B.C.C. #88-25-236

25 January 1989

General Description of the Project

The project is a proposed three-storey addition to an existing thirteen-storey hospital. The dispute involves waiving of the fire-resistance rating for the roof assembly of the addition.

Reason for Application

Clause 3.2.2.8.(1)(a) of Ontario Building Code O. Reg. 419/86 states that except as provided in Sentence 3.2.2.6.(1), the requirements in Articles 3.2.2.9. to 3.2.2.53. for roof assemblies to have a fire-resistance rating may be waived provided the building is sprinklered.

Applicant's Position

The three-storey addition will not contain a Group B, Division 2 occupancy. The two-storey portion of the proposed addition will interface the existing hospital. The three-storey portion of the addition will be isolated from the existing hospital. It is proposed to apply the roof rating waiver, as described in Sentence 3.2.2.8.(1) of the Code, to the addition roof assembly over the two-storey portion of the addition.

Building Official's Position

The existing thirteen-storey hospital and the proposed three-storey addition are classified as one building since no firewall is proposed.

Articles 3.2.2.26. and 3.3.3.33. require roof assemblies to have a 1 hour fire-resistance rating.

Sentence 3.2.2.8.(1) permits the roof rating to be waived provided (a) the building is sprinklered; requirements of Clauses 3.2.2.28(1)(b) and (c) are met; and (d) the building is not regulated by the provisions of Subsection 3.2.6.

Since the building is not sprinklered and is regulated by Subsection 3.2.6., the roof rating for the addition could not be waived.



Commission Ruling

In favour of the Applicant. It is the decision of the Building Code Commission that Application #88-25-236 has sufficiency of compliance with the Ontario Building Code O. Reg. 419/86.

The proposed three-storey addition adjacent to an existing thirteen-storey hospital tower is fully sprinklered, and those portions of the existing tower below the adjacent addition roof line are sprinklered, thus the roof fire-resistance rating of the new addition may be waived.

Reasons

1. Sprinklering of all storeys below the new roof line prevents roof-to-wall exposure on the existing building.
2. Sprinkler protection for the new roof assembly is sufficient in lieu of fire-resistance rating.



*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

## FIRE ALARM SYSTEMS

B.C.C. #88-24-235  
25 January 1989

### General Description of the Project

The project is a proposed condominium complex consisting of three highrise condominium buildings (two twelve-storey and one eighteen-storey) where the ground floor of each condominium tower converge into a single-storey recreational centre. The dispute involves the interconnection of the fire alarm system of the three condominium buildings with the recreation centre.

### Reason for Application

Sentence 3.2.4.1.(1) of Ontario Building Code O. Reg. 419/86 states that except as provided in Sentences (2) and (3), a fire alarm system shall be installed when the occupant load in Table 3.2.4.A. for any major occupancy is exceeded, and in buildings containing (a) more than 3 storeys, including storeys below grade, (b) a total occupant load greater than 300, other than in air open seating areas, or (c) an occupant load greater than 150 above the first storey, other than in open air seating areas.

Sentence 3.2.4.2.(2) states that except as provided in Sentence (4), where a building contains more than one major occupancy and a fire alarm system is required, a single system shall serve all occupancies.

### Applicant's Position

It is proposed to have the three fire alarm systems of the condominium buildings interlocked to sound throughout the complex only if the alarm originates in the common area (recreation centre). Should a fire alarm sound in one of the three condominiums, an alert signal would be sent to the other buildings. This would allow firemen to control and direct the fire condition from the tower involved where each system is equipped with emergency voice communication.

### Building Official's Position

Sentence 3.2.4.2.(1) is quite specific and allows for no exceptions for buildings over three storeys.

### Commission Ruling

In favour of the Applicant. It is the decision of the Building Code Commission that Application #88-24-235 has sufficiency of compliance with the Ontario Building Code O. Reg. 419/86.

The site comprises of three separate multi-storey condominium towers connected by a separate one-storey recreation centre.

Applicant has proposed that each tower have a single stage fire alarm system wired so that if an alarm initiates in any of the highrise towers, the alarm will be sounded in that tower and in the recreation centre. Also, if an alarm initiates in the recreation centre, an alarm will be sounded in the recreation centre and in each tower.

### Reasons

1. Each tower has its own central alarm control facility.
2. Each tower has its own individual address and its fire alarm system is connected to the municipal fire alarm system.
3. The manner in which the individual systems are interconnected including voice communications.





*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

## EMERGENCY POWER SUPPLY

B.C.C #88-22-233

14 December 1988

### General Description of the Project

The project is a seven-storey residential building. The building was designed and a building permit was issued to construct the building without an emergency generator. The dispute involves whether an emergency power supply is required for fire fighters' elevators. The top storey is 19.8 m above grade.

### Reason for Application

Clause 3.2.6.11.(4)(a) of Ontario Building Code O. Reg. 583/83 states that an emergency power supply capable of operating a full load for at least 2 hours shall be provided by an emergency generator or by a separate service not supplied by the same substation as the primary source for every elevator in a building that is more than 36 m in height measured between grade and the floor level of the top storey and every fire fighter's elevator, assuming that only one elevator will operate at a time.

### Applicant's Position

Possible ambiguity in Code resulted in design of building without emergency power. During inspection of the building, the building department issued an "Order to Comply" that emergency power for the fire fighters' elevators is required.

### Building Official's Position

The new building was required to be designed pursuant to O. Reg. 583/83 which clearly requires emergency power for the fire fighters' elevators. It is not within the power of the Chief Building Official to waive a requirement of the Building Code, even where there may be a sufficiency of compliance.

Commission Ruling

In favour of the Building Official. It is the decision of the Building Code Commission that Application #88-22-233 does not meet the requirements of Ontario Building Code O. Reg. 583/83 regarding the matter of emergency power to fire fighters' elevators.

Reasons

1. The Code is explicit in this requirement.
2. A fire fighter's elevator is an emergency lifesaving device.



*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

AUTHORIZATION  
BY THE  
BUILDING MATERIALS EVALUATION COMMISSION

#89-3-120  
10 May 1989

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act,  
Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF the Applicant:

Reach Plastics Limited  
5404 Maingate Drive  
Mississauga, Ontario  
L4W 1R8

ON THE SUBJECT OF:

Styroroofs, Styroslope and Styrofibre, these are rigid expanded polystyrene (EPS) insulations applied directly over metal roof decking that does not have a thermal barrier.

THE COMMISSION HEREBY AUTHORIZES to the applicant the use of the  
aforementioned matter subject to the following terms and conditions:

1. Where in the opinion of the COMMISSION negative experience indicates that this authorization should be amended and/or terminated, the COMMISSION may by written notice to the applicant or the agent at the above address, withdraw the authorization and no further installations shall be made subsequent to the effective date of the termination as set out in the written notice.
2. The COMMISSION does not assume or undertake to discharge any responsibility of the applicant to any other party or parties and does not in any manner warrant or guarantee the correctness and/or the successful performance of the subject matter.
3. This AUTHORIZATION may be mentioned in promotional and/or advertising material, however, it is not to be used expressly or impliedly as an endorsement of any product, material, technique or design which is described herein.



4. This AUTHORIZATION is not transferable to any other party. If the APPLICANT makes any revision or change to the address or the materials, technique, design, system and/or use of the same shall automatically be cause for termination, unless prior approval is granted for such revision or change by the COMMISSION.
5. Construction and installation shall be in conformance to all applicable governing legislation except that compliance with the terms and conditions described herein shall be deemed not to be a contravention of the Building Code. Where applicable any change in the Act, Regulation or Code provisions shall be grounds for re-evaluation by the COMMISSION.

#### AND SPECIFIC REQUIREMENTS

6. Except as authorized herein, all applicable requirements of the Ontario Building Code Act, Chapter 51, R.S.O. 1980, Ontario Regulation 419/86 as amended shall be met. A valid copy of this authorization shall be attached to the application for a building permit and a similar copy shall be posted and maintained on the site of the construction with the building permit.
7. The applicant shall be wholly responsible for the complete discharge of each paragraph of this authorization.
8. Each installation shall conform to the manufacturer's published instructions. All related documents and drawings shall bear the professional seal and signature of the architect.
9. This authorization is subject to conformance to Types 1 & 2 EPS insulations contained in the CGSB 51-GP-20-M87.
10. This authorization waives the code requirements for a thermal barrier over metal roof decks when the building is sprinklered in accordance with Sentence 3.2.2.8.(1) of the Code:

**3.2.2.8.(1)** Except as provided in Sentence 3.2.2.6.(1), the requirements in Articles 3.2.2.9. to 3.2.2.53. for roof assemblies to have a **fire-resistance rating** may be waived provided

- (a) the **building** is **sprinklered**
- (b) the sprinkler system in Clause (a) is electrically supervised in conformance with Sentence 3.2.4.11.(5), and
- (c) the operation of the sprinkler system in Clause (a) will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(3), and
- (d) the **building** is not regulated by the provisions of Subsection 3.2.6. (See Appendix A of O.B.C.)

#### LIMITATION

11. Subject to the above paragraph 1, this authorization shall be further limited to buildings using Styroroof, Styroslope and Styrofibre for which a permit is applied for prior to 31 December 1990. However, the applicant may by written registered letter to the COMMISSION request an amendment to this limitation at least three months prior to that date.

DATED at Toronto this <sup>th</sup>10 day in the month of MAY  
in the year 1989 for authorization # 89-3-120  
on behalf of







Ontario

Ministry  
of  
Housing

Building Code Commission

Building Materials Evaluation Commission

# Rulings

*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

AUTHORIZATION  
BY THE  
BUILDING MATERIALS EVALUATION COMMISSION

#89-1-118  
10 May 1989

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act,  
Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF an application by:

Canadian Gypsum Company  
777 Bay Street, Ste. 1800  
Toronto, Ontario  
M5W 1K3

ON THE SUBJECT OF:

Canadian Gypsum Company (CGC) horizontal cavity Shaft wall system, a gypsum sheetrock with steel studs, channels and runners forming a two hour fire resistance assembly for metal duct enclosures or ceiling membrane.

THE COMMISSION HEREBY AUTHORIZES to the applicant the use of the aforementioned matter subject to the following terms and conditions:

1. Where in the opinion of the COMMISSION negative experience indicates that this authorization should be amended and/or terminated, the COMMISSION may by written notice to the applicant or the agent at the above address, withdraw the authorization and no further installations shall be made subsequent to the effective date of the termination as set out in the written notice.
2. The COMMISSION does not assume or undertake to discharge any responsibility of the applicant to any other party or parties and does not in any manner warrant or guarantee the correctness and/or the successful performance of the subject matter.
3. This AUTHORIZATION may be mentioned in promotional and/or advertising material, however, it is not to be used expressly or impliedly as an endorsement of any product, material, technique or design which is described herein.

4. This AUTHORIZATION is not transferable to any other party. If the APPLICANT makes any revision or change to the address or the materials, technique, design, system and/or use of the same shall automatically be cause for termination, unless prior approval is granted for such revision or change by the COMMISSION.
5. Construction and installation shall be in conformance to all applicable governing legislation except that compliance with the terms and conditions described herein shall be deemed not to be a contravention of the Building Code. Where applicable any change in the Act, Regulation or Code provisions shall be grounds for re-evaluation by the COMMISSION.

#### AND SPECIFIC REQUIREMENTS

6. Except as authorized herein all applicable requirements of the Ontario Building Code Act, Chapter 51, R.S.O. 1980, Ontario Regulation 419/86 as amended shall be met. A valid copy of this authorization shall be attached to the application for a building permit and a similar copy shall be posted and maintained on the site of the construction with the building permit.
7. The applicant shall be wholly responsible for the complete discharge of each paragraph of this authorization.
8. This system shall be constructed as non-load bearing only and the supporting assembly shall be of at least the required fire resistance rating.
9. The maximum span for this system shall be 2.13 m (7 ft.) and the maximum of two hour fire resistance rating from either side as determined on the basis of test results with ASTM E119.
10. This assembly consists of at least 25.4 mm (1 in.) thick CGC gypsum shaft wall liner and three layers of 12.7 mm (1/2 in.) sheetrock firecode "C" panels. The liner and panels shall be fitted and fastened with metal studs, channels, runners, screw, anchors, trim and sealant as per manufacturer's recommendations.
11. The manufacturers detail is contained in the publication by CGC for Cavity Shaft Walls Systems, Folder 09260-2E, copyright 1988, on page 10, titled 2 hr. rated assembly horizontal metal duct enclosure (fire tested both sides).

12. Any and all the above data, details and tests shall be made available to any and all parties responsible for the design, detail, construction, installation and inspection of each installation.

DATED at Toronto this 10<sup>th</sup> day in the month of MAY  
in the year 1989 for authorization # 89-1-118  
on behalf of :







*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

AUTHORIZATION  
BY THE  
BUILDING MATERIALS EVALUATION COMMISSION

#88-10-117  
10 May 1989

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act,  
Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF an application by:

F. Verri & Associates Inc.  
7370 Bramalea Road, Unit #20  
Mississauga, Ontario  
L5S 1N6

ON THE SUBJECT OF:

A window sprinkler assembly system to provide a two-hour fire resistance rated separation in a wall to consist of tempered or heat strengthened glass fixed in a non openable hollow metal steel frame or extruded aluminum frame and a special sidewall window sprinkler with quick response action.

THE COMMISSION HEREBY AUTHORIZES to the applicant the use of the aforementioned matter subject to the following terms and conditions:

1. Where in the opinion of the COMMISSION negative experience indicates that this authorization should be amended and/or terminated, the COMMISSION may by written notice to the applicant or the agent at the above address, withdraw the authorization and no further installations shall be made subsequent to the effective date of the termination as set out in the written notice.
2. The COMMISSION does not assume or undertake to discharge any responsibility of the applicant to any other party or parties and does not in any manner warrant or guarantee the correctness and/or the successful performance of the subject matter.
3. This AUTHORIZATION may be mentioned in promotional and/or advertising material, however, it is not to be used expressly or impliedly as an endorsement of any product, material, technique or design which is described herein.

4. This AUTHORIZATION is not transferable to any other party. If the APPLICANT makes any revision or change to the address or the materials, technique, design, system and/or use of the same shall automatically be cause for termination, unless prior approval is granted for such revision or change by the COMMISSION.
5. Construction and installation shall be in conformance to all applicable governing legislation except that compliance with the terms and conditions described herein shall be deemed not to be a contravention of the Building Code. Where applicable any change in the Act, Regulation or Code provisions shall be grounds for re-evaluation by the COMMISSION.

#### AND SPECIFIC REQUIREMENTS

6. This window sprinkler assembly system shall be designed, engineered, inspected and verified by a fire protection Professional Engineer (authorized in Ontario) and a document of certification by the Professional Engineer with stamp shall be forwarded to the Chief Building Official and the Building Owner(s).
7. The sprinkler system shall be installed and tested in accordance with N.F.P.A. 13 as a wet pipe system and maintained in accordance with Section 6.5 (sprinkler) of the Ontario Fire Code.
8. The special designed sprinkler head shall be designated as a horizontal sidewall window nozzle, Grinnell Canada Fire Protection Company Limited model FR-1/Q-60, 12.7 mm (1/2 in.) orifice, 74°C (165°F) activation temperature quick response link. The optimum position of the sprinkler head shall be as determined by the tests submitted by National Research Council Canada.
9. The interior glazing shall consist of one sheet of fixed non-operable tempered or heat strengthened glass installed in a hollow metal steel frame 1.35 mm (16 gauge) minimum thickness or extruded aluminum 1.8 mm (1/16 in.) minimum thickness. The maximum glazing shall be 2134 mm (7 ft. 0 in.) wide by 2844 mm (9 ft. 4 in.) high and minimum 6 mm (1/4 in.) thick.

10. 1. This window sprinkler system may be used in either a sprinklered or unsprinklered building to protect non openable window openings to a maximum of 2 hr. fire resistance rating provided,
  - (a) in an exposing building face or exterior spatial separation the window sprinkler is installed on the interior side of the window, or
  - (b) in an interior fire separation the window sprinkler is installed on both sides of the window in the fire separation.
11. Interior or exterior installations may be made in all types of occupancies except Group F, Division 1 and shall not be used in a firewall. Should the system be located in a loadbearing wall, all loadbearing components shall be protected independently of this window sprinkler assembly system.
12. This window sprinkler system shall not be used in exits as defined in the Ontario Building Code.
13. This horizontal sidewall window sprinkler system shall be served by either a separate riser or separate cross main independent of any regular sprinkler or standpipe system serving the floor area.
14. Separate flow switches or alarm check valves and supervised control valves and each fire compartment on each system shall be electrically supervised and indicated separately at the fire/sprinkler alarm annunciator panel.
15. Where the water supply is from a standpipe system conforming to the Code, the siamese connection shall be labelled as per the standard except for this dual purpose which shall read "STANDPIPE AND WINDOW SPRINKLERS".

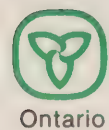
16. A noncombustible sign legibly printed in not less than 12.7 mm (1/2 in.) block letters with contrasting white background and red letters shall be permanently mounted and maintained beside the main water supply source to this window sprinkler assembly system to indicate:

WARNING

SPECIAL SPRINKLER HEADS ON THIS SYSTEM  
ARE AN INTEGRAL PART OF WINDOW FIRE  
SEPARATION. THIS WATER SUPPLY MAY  
ONLY BE SHUT OFF AFTER ALL THE PROPER  
AUTHORITIES HAVE RECEIVED NOTICE IN WRITING.

DATED at Toronto this 10<sup>th</sup> day in the month of MAY  
in the year 1989 for authorization # 88-10-117  
on behalf of :





*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

AUTHORIZATION  
BY THE  
BUILDING MATERIALS EVALUATION COMMISSION

#88-9-116  
10 May 1989

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act,  
Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF an application by:

E-Z-RECT Manufacturing Ltd.  
268 Rutherford Road South  
Brampton, Ontario  
L6W 3N3

ON THE SUBJECT OF:

A self contained structural shelf and rack storage facility  
within a building, having one or more solid intermediate deck or  
walkway levels for personnel access.

THE COMMISSION HEREBY AUTHORIZES to the applicant the use of the  
aforementioned matter subject to the following terms and conditions:

1. Where in the opinion of the COMMISSION negative experience indicates that this authorization should be amended and/or terminated, the COMMISSION may by written notice to the applicant or the agent at the above address, withdraw the authorization and no further installations shall be made subsequent to the effective date of the termination as set out in the written notice.
2. The COMMISSION does not assume or undertake to discharge any responsibility of the applicant to any other party or parties and does not in any manner warrant or guarantee the correctness and/or the successful performance of the subject matter.
3. This AUTHORIZATION may be mentioned in promotional and/or advertising material, however, it is not to be used expressly or impliedly as an endorsement of any product, material, technique or design which is described herein.

4. This AUTHORIZATION is not transferable to any other party. If the APPLICANT makes any revision or change to the address or the materials, technique, design, system and/or use of the same shall automatically be cause for termination, unless prior approval is granted for such revision or change by the COMMISSION.
5. Construction and installation shall be in conformance to all applicable governing legislation except that compliance with the terms and conditions described herein shall be deemed not to be a contravention of the Building Code. Where applicable any change in the Act, Regulation or Code provisions shall be grounds for re-evaluation by the COMMISSION.

#### AND SPECIFIC REQUIREMENTS

- 6.(1)(a) Deck level shall be a continuous horizontal construction membrane through the entire shelf rack facility, and
  - (b) Walkway level shall be the horizontal construction membrane between the solid shelving installed on the same plane, and
  - (c) Level area means the greatest horizontal area of the shelf and rack storage facility.
- (2)(a) Deck or walkway levels shall be constructed of solid closed surface steel planking or,
  - (b) Steel roof decking with minimum 16 mm (5/8 in.) maximum 19 mm (3/4 in.) thick tongue and groove solid wood or plywood.
- (3) The structural design of the entire shelf and rack storage facility support sytem including posts, beams, decks, walkways, connections, and their supports such as concrete slabs, separate foundations or similar shall be in accordance with Ontario Building Code Part 4 requirements.
- (4) Detailed drawings for each installation shall be stamped by a member of the Association of Professional Engineers of Ontario Certifying conformity with this authorization. These drawings shall also detail an appropriate sign to indicate the maximum permissible design loads for each rack storage system and such sign shall be permanently fixed to the building interior and displayed in a prominent unobstructed viewing position. These drawings shall be submitted for a building permit in the usual way.

7. An approved wet pipe sprinkler system shall be designed and installed for the entire shelf and rack storage facility including the top level and shall be in conformance with N.F.P.A. 13-1983, and N.F.P.A. 231C-1980 or the appropriate N.F.P.A. Standard for the most severe hazard that it is exposed too. Sprinklers are not required where only Class I commodities as defined in the following paragraph 8.(2) are stored.
- 8.(1)(a) The entire shelf and rack storage dimension shall be limited to Table 8.A. based on the type of commodity stored as defined in paragraph 8, (2), (3), (4) and (5). Excerpts of N.F.P.A. 231C-1980 are outlined in the attached appendix pages 7 and 8.
  - (b) A firewall as defined in the Ontario Building Code Regulation 419/86, may divide the confining building into two or more separate buildings, wherein, one of the following classes may be assigned to each of the separate buildings.
- (2) Class I commodities are non-combustible products, as defined in N.F.P.A. 231C-1980; or
- (3) Class II, III and IV commodities are combustible products, as defined in N.F.P.A. 231C-1980; or
- (4) Class SS commodities are special hazard products not covered in paragraph 8.(2), (3) or (5);
- (5) Aerosol products composed of greater than 55% non-water miscible flammable products including lubricants; paints; oil-based anti-perspirants, furniture polish, insecticides and automotive products, are to be stored only:
  - (a) On the ground floor of the racking system, and
  - (b) In a designed area separated by,
    - (i) a vertical 1 hr. fire separation, or
    - (ii) a vertical chain link fencing not lighter than 9 ga. steel wire made into a 50 mm (2 in.) diamond mesh, located not less than 2.5 m (8 ft.) from all other storage where the adjacent storage is more hazardous than Class IV commodity, or
    - (iii) a method acceptable to the chief Fire Official, and

- (c) In the designated area protected by an in-rack sprinkler system. The sprinkler demand shall be a minimum of 1.9 L/s (30 g.p.m. (U.S.)) discharge per head with 74°C (165°F) heads or less and shall be 2.5 m (8 ft.) apart maximum. This design shall be further based on the operation of the hydraulically most remote;
- (i) 8 sprinklers if one level, or
  - (ii) 6 sprinklers on each level if only two levels, or
  - (iii) 6 sprinklers on each of the top three levels if three or more levels.
- (d) Single row racks shall require only the inrack sprinklers, whereas, double row racks shall require sprinklers in longitudinal flue as well as on face sprinklers which shall be staggered on opposite sides of racks.

TABLE 8.A.  
Forming Part of Paragraph 8

Shelf and Rack Storage Facility				
Commodity Classes	Maximum Height ①		Maximum Area ②	
	m	ft	m <sup>2</sup>	sq. ft.
Class I	6 12 18	20 40 60	unlimited 20,070 13,380	unlimited 216,000 144,000
Class II, III and IV	6 12 18	20 40 60	8,920 4,460 2,230	96,000 48,000 24,000
Class SS	6 12 18	20 40 60	3,340 1,670 1,110	36,000 18,000 12,000
Column 1	2	3	4	5

NOTE: ① The maximum height shall be from the floor supporting the shelf and rack system to the topmost portion of the racking system.

② The maximum area is the sum total of all levels of the shelf and rack system as well as the floor.



9. A plain legible sign or signs, with contrasting letters and titled "NOTICE", shall describe the above Class and requirements for each shelf and rack storage facility. This sign or signs shall be permanently mounted, at or near the main water supply for the sprinkler system and shall be maintained at all times. For Class I commodities this "NOTICE" shall be permanently mounted, at or near the main entrance to this shelf and rack storage facility.
- 10.(1) Exits shall be separated from the rack storage facilities with fire separations, having a fire resistance rating conforming to Subsection 3.4.5 of the Ontario Building Code; and
  - (2) the exit stair shafts shall conform to all requirements for exits as stated in Section 3.4 of the Ontario Building Code; and
  - (3) no fewer than 2 exits are required from each deck or walkway level, except where there are not more than two levels above the building floor, and the level area does not exceed  $139 \text{ m}^2$  (1500 sq. ft.), two means of egress shall be required without the requirements of fire separation for exit, and
  - (4) any opening in a deck for egress, convenience stairs, ramps or chutes, shall be protected by smoke baffles and close spaced sprinklers as per paragraph 7 of this authorization.
11. The maximum travel distance to exits shall not exceed 46 m (150 ft.) and to a fire extinguisher shall not exceed 23 m (75 ft.).
- 12.(1) Where a shelf and rack storage facility contains two or more deck or walkway levels and where each level is greater than  $239 \text{ m}^2$  (2,500 sq. ft.), a smoke detection system shall be installed on the underside of each deck level on which a walkway or aisle is located, and
  - (2) the number of system smoke detectors installed shall be in accordance to CAN4-S524-M1982.
13. The clear aisle width shall not be less than 760 mm (30 inches).
14. This shelf and rack storage facility is not permitted in F-1 occupancy as defined in the Ontario Building Code.

15. The shelf and rack storage facilities shall be used only for storage and not for manufacturing, production, wrapping or assembly.
16. The shelf and rack storage facilities shall be accessible to employees only and shall be designated, signed and posted as a "NO SMOKING" area conforming to Subsection 2.4.3 of the Ontario Fire code.
- 17.(1) In building areas containing shelf and rack storage facilities exceeding  $4,645 \text{ m}^2$  (50,000 sq. ft.) and except for storage of Class I commodities as defined in paragraph 8 of this document, manually operated smoke vents shall be installed in accordance with N.F.P.A. 204, Section 230, and
  - (2) The smoke vent opening shall be not less than 1.2 m by 1.8 m (4 ft. by 6 ft.) and the openings shall be located not more than 23 m (75 ft.) from an exterior wall and not more than 46 m (150 ft.) from each other.
- 18.(1) A standpipe and hose system shall be installed in accordance with Article 3.2.5.4 of the Ontario Building Code where the shelf and rack storage facility height is more than 3 levels including floor level or 14 m (45 ft.) in height.
  - (2) Where a standpipe and hose system is required, 63.5 mm (2-1/2 in.) diameter hose connections shall be provided, except that 38.1 mm (1-1/2 in.) hose connections are permitted in the shelf and rack storage facilities which:
    - (a) neither exceed 6 levels including the floor level, and
    - (b) do not exceed  $3,716 \text{ m}^2$  (40,000 sq. ft.) in the sum total of all levels of the shelf and rack storage facility.

## APPENDIX

### Commodity Classifications:

The following guide for commodity classification applies specifically to rack storage and is not related to any other method of classification of materials.

Class I commodity is defined as essentially non-combustible product on wood pallets, or in ordinary corrugated cartons with or without single thickness dividers or in ordinary paper wrappings, all on wood pallets. Such products may have a negligible amount of plastic trim, such as knobs or handles.

Examples of Class I products are:

**Metal Products.** Metal desks with plastic tops and trim, electrical coils, electrical devices in their metal enclosures, pots and pans, electrical motors, dry cell batteries, metal parts, empty cans, stoves, washers, dryers and metal cabinets.

**Glass Products.** Glass bottles, empty or filled with non-combustible liquids, mirrors.

**Foods.** Foods in non-combustible containers; frozen foods; meat, fresh fruits and vegetables in non-plastic trays or containers; dairy products in nonwax-coated paper containers, beer or wine up to 20 percent alcohol, in metal, ceramic or glass containers.

**Others.** Oil-filled and other types of distribution transformers, cement in bags, electrical insulators, gypsum board, inert pigments, dry insecticides.

Class II commodity is defined as Class I products in slatted wooden crates, solid wooden boxed, multiple thickness paperboard cartons, or equivalent combustible packaging material on wood pallets.

Examples of Class II products are: thinly coated fine wire such as radio coil wire on reels or in cartons; incandescent or fluorescent light bulbs; beer or wine up to 20 percent alcohol in wood containers; and class I products, if any small cartons or small packages placed in ordinary corrugated cartons.

Class III commodity is defined as wood, paper, natural fiber cloth, or products thereof, on wood pallets. Products may contain a limited amount of plastics. Wood dressers with plastic drawer guides, handles, and trim are examples of a commodity with limited amount of plastic.

Examples of Class III products are:

**Paper Products.** Books, magazines, newspapers, stationery, plastic coated paper food containers, paper or cardboard games, tissue products, rolled paper on side or steel banded on end, and regenerated cellulose (cellophane).

Leather Products. Shoes, jackets, gloves, and luggage.

Wood Products. Doors, windows, door and window frames, combustible fiberboard, wood cabinets, furniture and other wood products.

Textiles. Natural fiber upholstered non-plastic furniture, wood or metal furniture with plastic padded and covered arm rests, mattresses without expanded plastic or rubber, absorbent cotton in cartons, natural fiber and viscose yarn thread, and products, and natural fiber clothing or textile products.

Others. Tobacco products in paperboard cartons, non-flammable liquids such as soaps, detergent and bleaches, and non-flammable pharmaceuticals in plastic containers; combustible foods or cereal products, and non-negative producing film packs in sealed metal foil wrappers in paperboard packages.

Class IV commodity is defined in Class I, II and/or III products contained an appreciable amount of plastics in a paperboard carton or Class I, II and/or III products with plastic packaging in paperboard cartons on wood pallets.

Examples of Class IV products are small appliances, typewriters and cameras with plastic parts, plastic backed tapes and synthetic fabrics or clothing. An example of packing material is a metal product in a foamed plastic cocoon in a corrugated carton.

Class IV commodity also includes:

Textiles. Synthetic thread and yarn except viscose, and non-viscose synthetic fabrics or clothing.

Others. Telephone, vinyl floor tile, wood or metal frame upholstered furniture or mattresses with plastic covering and/or padding, and plastic padded metal dashboards or metal bumpers

DATED at Toronto this 10<sup>th</sup> day in the month of MAY  
in the year 1989 for authorization # 88-9-116  
on behalf of :





*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

AUTHORIZATION  
BY THE  
BUILDING MATERIALS EVALUATION COMMISSION

#88-8-115  
10 May 1989

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act,  
Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF the Applicant:

Spring Air Systems Inc.  
3155 Grandby Drive  
Oakville, Ontario  
L6H 3Y9

ON THE SUBJECT OF:

Kitchen exhaust and filtration system with or without heat  
reclaim unit for supply return air make up to kitchen area only.

THE COMMISSION HEREBY AUTHORIZES to the applicant the use of the  
aforementioned matter subject to the following terms and conditions:

1. Where in the opinion of the COMMISSION negative experience indicates that this authorization should be amended and/or terminated, the COMMISSION may by written notice to the applicant or the agent at the above address, withdraw the authorization and no further installations shall be made subsequent to the effective date of the termination as set out in the written notice.
2. The COMMISSION does not assume or undertake to discharge any responsibility of the applicant to any other party or parties and does not in any manner warrant or guarantee the correctness and/or the successful performance of the subject matter.
3. This AUTHORIZATION may be mentioned in promotional and/or advertising material, however, it is not to be used expressly or impliedly as an endorsement of any product, material, technique or design which is described herein.

4. This AUTHORIZATION is not transferable to any other party. If the APPLICANT makes any revision or change to the address or the materials, technique, design, system and/or use of the same shall automatically be cause for termination, unless prior approval is granted for such revision or change by the COMMISSION.
5. Construction and installation shall be in conformance to all applicable governing legislation except that compliance with the terms and conditions described herein shall be deemed not to be a contravention of the Building Code. Where applicable any change in the Act, Regulation or Code provisions shall be grounds for re-evaluation by the COMMISSION.

#### AND SPECIFIC REQUIREMENTS

6. The kitchen exhaust duct beyond the fire damper located on the exhaust side of the filtered unit may be installed in accordance with the Ontario Building Code 6.2.4. when it passes directly to atmosphere and not through any fire separation.
7. Installation and maintenance shall comply with the application dated 3 March 1989, and proposal as submitted by the applicant titled, "Specifications Sheets for KES, KRS, KHR and KHR-EN for Commercial Kitchen Exhaust", dated 28 March 1989.
8. The tempered supply air duct system shall be installed in accordance with the Ontario Building Code Subsection 6.2.4. and discharge only to the kitchen area. There shall be a fire damper in this supply return air duct at the reclaim unit.
9. Where a heat reclaim unit is used with gas fired kitchen cooking equipment, the heat reclaim unit shall have separate air streams for exhaust to outside of the building and the make up air system to only the kitchen area.
10. This authorization does not include any gas or liquid fired make up air units, any such units may be separately approved by the Fuels Safety Branch.
11. Except as noted above the entire system shall conform to NFPA 96-1984 as amended to 1 January 1986.

DATED at Toronto this 10<sup>th</sup> day in the month of MAY  
in the year 1989 for authorization # 88-8-115  
on behalf of :



*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

AUTHORIZATION  
BY THE  
BUILDING MATERIALS EVALUATION COMMISSION

#88-7-114  
10 May 1989

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act,  
Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF the Applicant:

Plasti Fab Ltd.,  
1214 Union St.  
Kitchener, Ontario  
N2G 4G1

ON THE SUBJECT OF:

Durofoam and Plasti Span, these are rigid expanded polystyrene (EPS) insulations applied directly over metal roof decking that does not have a thermal barrier.

THE COMMISSION HEREBY AUTHORIZES to the applicant the use of the  
aforementioned matter subject to the following terms and conditions:

1. Where in the opinion of the COMMISSION negative experience indicates that this authorization should be amended and/or terminated, the COMMISSION may by written notice to the applicant or the agent at the above address, withdraw the authorization and no further installations shall be made subsequent to the effective date of the termination as set out in the written notice.
2. The COMMISSION does not assume or undertake to discharge any responsibility of the applicant to any other party or parties and does not in any manner warrant or guarantee the correctness and/or the successful performance of the subject matter.
3. This AUTHORIZATION may be mentioned in promotional and/or advertising material, however, it is not to be used expressly or impliedly as an endorsement of any product, material, technique or design which is described herein.

4. This AUTHORIZATION is not transferable to any other party. If the APPLICANT makes any revision or change to the address or the materials, technique, design, system and/or use of the same shall automatically be cause for termination, unless prior approval is granted for such revision or change by the COMMISSION.
5. Construction and installation shall be in conformance to all applicable governing legislation except that compliance with the terms and conditions described herein shall be deemed not to be a contravention of the Building Code. Where applicable any change in the Act, Regulation or Code provisions shall be grounds for re-evaluation by the COMMISSION.

#### AND SPECIFIC REQUIREMENTS

6. Except as authorized herein, all applicable requirements of the Ontario Building Code Act, Chapter 51, R.S.O. 1980, Ontario Regulation 419/86 as amended shall be met. A valid copy of this authorization shall be attached to the application for a building permit and a similar copy shall be posted and maintained on the site of the construction with the building permit.
7. The applicant shall be wholly responsible for the complete discharge of each paragraph of this authorization.
8. Each installation shall conform to the manufacturer's published instructions. All related documents and drawings shall bear the professional seal and signature of the architect.
9. This authorization is subject to conformance to Types 1 & 2 EPS insulations contained in the CGSB 51-GP-20-M87.
10. This authorization waives the code requirements for a thermal barrier over metal roof decks when the building is sprinklered in accordance with Sentence 3.2.2.8.(1) of the Code:



**3.2.2.8.(1)** Except as provided in Sentence 3.2.2.6.(1), the requirements in Articles 3.2.2.9. to 3.2.2.53. for roof assemblies to have a **fire-resistance rating** may be waived provided

- (a) the **building** is **sprinklered**
- (b) the sprinkler system in Clause (a) is electrically supervised in conformance with Sentence 3.2.4.11.(5), and
- (c) the operation of the sprinkler system in Clause (a) will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(3), and
- (d) the **building** is not regulated by the provisions of Subsection 3.2.6. (See Appendix A of O.B.C.)

#### LIMITATION

11. Subject to the above paragraph 1, this authorization shall be further limited to buildings using Durofoam and Plasti Span for which a permit is applied for prior to 31 December 1990. However, the applicant may by written registered letter to the COMMISSION request an amendment to this limitation at least three months prior to that date.

DATED at Toronto this 10<sup>th</sup> day in the month of MAY  
in the year 1989 for authorization # 88-7-114  
amended on behalf of :





Ontario

Ministry  
of  
Housing

Building Code Commission

Building Materials Evaluation Commission

# Rulings

*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

AMENDED  
AUTHORIZATION  
BY THE  
BUILDING MATERIALS EVALUATION COMMISSION

AMENDED  
#84-3-69  
7 December 1988

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act,  
Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF an application by:

Self-Powered Lighting Inc.  
8 Westchester Plaza  
Elmsford, N.Y. 10523  
U.S.A.

AGENT:

Kaufel Group Ltd.  
Emergi-Lite Division  
1811 Hymus Blvd.  
Dorval, P.Q.  
H9P 1J5

ON THE SUBJECT OF:

Self luminous exit sign, EVERGLO series #710A and Omniglo series  
#700C with white letters on red background.

THE COMMISSION HEREBY AUTHORIZES to the applicant the use of the  
aforementioned matter subject to the following terms and conditions:

1. Where in the opinion of the COMMISSION negative experience indicates that this authorization should be amended and/or terminated, the COMMISSION may by written notice to the applicant or the agent at the above address, withdraw the authorization and no further installations shall be made subsequent to the effective date of the termination as set out in the written notice.
2. The COMMISSION does not assume or undertake to discharge any responsibility of the applicant to any other party or parties and does not in any manner warrant or guarantee the correctness and/or the successful performance of the subject matter.

3. This AUTHORIZATION may be mentioned in promotional and/or advertising material, however, it is not to be used expressly or impliedly as an endorsement of any product, material, technique or design which is described herein.
4. This AUTHORIZATION is not transferable to any other party. If the APPLICANT makes any revision or change to the address or the materials, technique, design, system and/or use of the same shall automatically be cause for termination, unless prior approval is granted for such revision or change by the COMMISSION.
5. Construction and installation shall be in conformance to all applicable governing legislation except that compliance with the terms and conditions described herein shall be deemed not to be a contravention of the Building Code. Where applicable any change in the Act, Regulation or Code provisions shall be grounds for re-evaluation by the COMMISSION.

#### AND SPECIFIC REQUIREMENTS

6. This AUTHORIZATION is only valid when the applicant and/or his agent complies with the Atomic Energy Control Board Radioisotope Licence Number 4-9240-89 (Rev 1) and any future renewals of same. Copies of this B.M.E.C. AUTHORIZATION and the above A.E.C.B. licence shall accompany each sign or group of signs to any one building.
7. This AUTHORIZATION may be used for all new or existing buildings for which a building permit is required.
8. The sign is exempted from the requirement of the Ontario Building Code that requires connection to an electrical circuit separate from other electrical circuits and illumination of emergency power supply where required also letter colouring.
9. Installation and maintenance shall also comply with the manufacturer's instructions and a copy shall be supplied with each sign or group of signs to any one building. The sign and bracket shall be securely anchored to the structure of the building with tamper-resistant mounting hardware.



10. Each sign shall be replaced no latter than 12 years from date of manufacture, however, the manufacturer and/or his agent shall by written registered letter at least 6 months prior to that expiry date notify each sign recipient and the Chief Fire Official of the municipaltiy regarding the expiry date, replacement and disposal of each sign.
11. The manufacturer and/or his agent will ensure that each sign is clearly and durably labelled with radiation warning and U.L. listing as evidence to the nature, activity, expiry date, manufacturer's date, serial number, manufacturer and agents name and address, and in addition the expiry date shall be either emossed, hot stamped, engraved, molded or similar method by which the expiry date becomes an integral part of the sign. Such labelling shall be mounted on the bottom outside frame of each sign where it will be clearly visible after installation of such sign.

DATED at Toronto this 7<sup>th</sup> day in the month of DECEMBER in  
the year 1988 for authorization # 84-3-69  
amended on behalf of:





*This is a summary of the decision or authorization.*

*Further information may be obtained by writing to the Commission Secretary, 777 Bay St., Toronto, Ont. M5G 2E5*

AMENDED  
AUTHORIZATION  
BY THE  
BUILDING MATERIALS EVALUATION COMMISSION #83-2-61  
10 May 1989

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act,  
Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF an application by:

Sparfil International Inc.  
8241 Keele St., #15  
Concord, Ontario  
L4K 1Z5

ON THE SUBJECT OF:

Sparfil Wall System II, a building block manufactured from expanded polystyrene (EPS) beads, combined with portland cement, fine sand and chemical additives which, with Sparbond surface mortar and alkali resistant glass fibre fabric mesh applied to the surface of all exposed faces of the dry stacked "Sparfil Block" is in lieu of conventional cement mortar and block.

THE COMMISSION HEREBY AUTHORIZES to the applicant the use of the  
aforementioned matter subject to the following terms and conditions:

1. Where in the opinion of the COMMISSION negative experience indicates that this authorization should be amended and/or terminated, the COMMISSION may by written notice to the applicant or the agent at the above address, withdraw the authorization and no further installations shall be made subsequent to the effective date of the termination as set out in the written notice.
2. The COMMISSION does not assume or undertake to discharge any responsibility of the applicant to any other party or parties and does not in any manner warrant or guarantee the correctness and/or the successful performance of the subject matter.
3. This AUTHORIZATION may be mentioned in promotional and/or advertising material, however, it is not to be used expressly or impliedly as an endorsement of any product, material, technique or design which is described herein.

4. This AUTHORIZATION is not transferable to any other party. If the APPLICANT makes any revision or change to the address or the materials, technique, design, system and/or use of the same shall automatically be cause for termination, unless prior approval is granted for such revision or change by the COMMISSION.
5. Construction and installation shall be in conformance to all applicable governing legislation except that compliance with the terms and conditions described herein shall be deemed not to be a contravention of the Building Code. Where applicable any change in the Act, Regulation or Code provisions shall be grounds for re-evaluation by the COMMISSION.

#### AND SPECIFIC REQUIREMENTS

6. (a) The applicant of this authorization shall be wholly responsible for the complete discharge of each paragraph of this authorization, also at any time upon a request by any person, show proof with a signed receipt, that a copy of this authorization has been received by the architect or professional engineer responsible for the masonry design and the Chief Building Official and those persons in charge at the site of construction.
- (b) Except as authorized herein all applicable requirements of the Ontario Building Code Act, Chapter 51, R.S.O. 1980, and the Ontario Regulation 419/86 as amended shall be met. A valid copy of this Authorization shall be attached to the application for building permit and a similar copy shall be posted and maintained on the site of construction with the building permit.
7. (a) Sparfil Wall System II is classified as a combustible MATERIAL. However, the Sparfil Wall System II may be used as a combustible element in a building required to be of noncombustible construction or in combustible construction as a fire separation providing not more than a 2 hour fire resistance rating when using units of 200 mm (8 in.) thick for non-load or load bearing walls, except this system shall not be permitted for firewalls, cavity walls, columns, chimneys or as fire stopping in any type of construction, and



- (b) this system shall not be permitted as a fire separation when required to provide not more than a 2 hour fire resistance rating where the wall is to be reinforced and cores grouted in solid for any type of construction.
- 8. An architect or professional engineer shall be responsible for the masonry design, details and general review during construction of the Sparfil Wall System II and all construction documents shall be duly sealed, for
  - (a) each use of the system, and
  - (b) after exposure of any fire condition.
- 9. The design, details and general review shall also be subject to:
  - (a) All previous issues of "Tech Sheets, Design and/or Construction Manuals" are superseded as of 10 May 1989, and
  - (b) The new current "Design Manual for Sparfil Wall System II" submitted via Sparfil International Inc. and Robert G. Drysdale, Ph.D., P.Eng. of Drysdale Engineering and Associates Limited, Ancaster, Ontario, dated 10 May 1989, First Edition shall be the only valid data included in this authorization as of 10 May 1989, and
  - (c) SPARFIL TECH SHEETS 1, 2, 3, 4 and 7 dated 10 May 1989, First Edition, shall be the only technical sheets included in this authorization and the "Design Manual for Sparfil Wall System II", and
  - (d) All WARRANTY disclaimers on any data, tech sheets or literature shall be eliminated as a further condition of this authorization.
- 10. Site control procedures for protection and installation shall be carefully followed as per Sparfil TECH SHEETS 1, 2, 3, 4 and 7, dated 10 May 1989.
- 11. Inspection of masonry construction shall be carried out to ensure that construction is consistent with design details and specifications and in compliance with Design Manual for Sparfil Wall System II and TECH SHEETS 1, 2, 3, 4 and 7, all dated 10 May 1989. Such inspection shall be carried out by the architect or professional engineer responsible for the masonry wall design or by another person qualified in the inspection of masonry construction and who is responsible to the masonry wall design architect or professional engineer.

12. (a) Based on an average of 5 tests Sparfil Blocks shall have the following minimum unit compressive strength based on gross area ...

<u>Normal Block Size</u>	<u>MPA</u>	<u>psi</u>
200 mm x 200 mm x 400 mm (8" x 8" x 16")	2.2	320
250 mm x 200 mm x 400 mm (10" x 8" x 16")	1.8	260
300 mm x 200 mm x 400 mm (12" x 8" x 16")	1.6	230

- (b) Tolerances on Sparfil Block sizes shall be maintained and verified to be within 1/16" by an accredited testing agency at the manufacturing level at least every three months or more often as required by the agency. All discrepancies shall be reported by the agency to the Building Materials Evaluation Commission at once.
- (c) Based on an average of five tests, Sparbond surface mortar with fibre glass mesh shall have a minimum unit tensile strength of 30.0 N/mm.
- (d) The above tests and tolerances shall be made available to the Chief Building Official at the time of an application for building permit and the Building Materials Evaluation Commission at any time upon request and no later than within 10 days of such a request.

13. (a) Sparbond surface mortar shall conform to all the requirements of "ASTM C887-79a (Reapproved 1984)" except for any reference to glass fibers in a prepackaged form or chopped fibers for reinforcement in a cementitious matrix and flexural strength for which resistance is dependent on the addition of the Sparfil fibre glass mesh at the jobsite, and
- (b) Sparfil fibre glass mesh shall be as supplied by Sparfil International Inc. and shall use a 7 x 7 construction (6 strands per 25.4 mm) at a weight of 150 g/m<sup>2</sup> +/- 10%.



LIMITATION

14. (a) Subject to the above paragraph 1 this authorization shall be further limited to buildings using the old system without the fibre glass fabric mesh on Sparfil Wall System for which a permit is applied for prior to 10 May 1989. Commencing on the said date, ONLY the new Sparfil Wall System II using the fibre glass mesh shall be used.
- (b) Sparfil International Inc. may by written registered letter to this Commission request an amendment to this paragraph at least three months before 31 December 1990 at which time this authorization will expire.

DATED at Toronto this 10<sup>th</sup> day in the month of MAY in the year 1989 for authorization #83-2-61 amended on behalf of:

AMENDMENTS TO AUTHORIZATION

B.M.E.C. #83-2-61  
10 May 1989

IN THE MATTER OF Section 18 (4) (b) of the Building Code Act, Revised Statutes of Ontario, 1980, Chapter 51

AND IN THE MATTER OF authorization:

TO: Sparfil International Inc.  
8241 Keele St., #15  
Concord, Ontario  
L4K 1Z5

ON THE SUBJECT OF:

A new revised Sparfil Wall System II

SHALL BE AMENDED AS FOLLOWS:

Delete the use of the old systems in lieu of the new revised system and the amended authorization as of 10 May 1989.

REASONS:

Due to a complete change of design and new test data and design manual.

MOVED AND ADOPTED THIS 10th DAY OF MAY, 1989 BY THE BUILDING MATERIALS EVALUATION COMMISSION.

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